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1. Process for early detection of reactor fouling occurring during a gas phase polymerisation of olefin(s) using a fluidized bed reactor comprising a fluidization grid, characterised in that the upper part of the fluidization grid is fitted with devices capable of detecting the polymer agglomerates hitting said devices.

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2. Process according to claim 1 wherein the devices comprise detection switches which protrude through the grid and which gives an indicative signal of the presence of agglomerates on the grid.

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3. Process according to any of the preceding claims wherein the devices comprise an automatic reset system in order to allow a device to give a further signal in case of another encounter with an agglomerate hitting said device.

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4. Process according to any of the preceding claims wherein the devices are of a mechanical, electrical, electromechanical or pneumatic type, or a combination of one or more of the said types.

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Process according to claim 4 wherein the devices are electromechanical.

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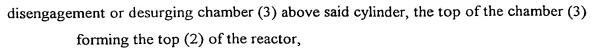
15 6. Process according to any of the preceding claims wherein the fluidized bed reactor is cylindrical and comprises a fluidization grid which is a disc having a diameter comprised between 2 and 7 m.

7/1-6

- Process according to any of the preceding claims wherein the fluidization grid is fitted with at least 4 devices capable of detecting the polymer agglomerates.

 - 20 8. Apparatus for the gas phase polymerisation of olefins including:
 - (i) a fluidized bed reactor (1) fitted with a top (2) and a base comprising a fluidization grid (4), and consisting of a cylinder with a vertical side wall and a





- (ii) an entry chamber (9) for a reaction gas mixture, situated under the grid (4) and communicating with the reactor (1) through the intermediacy of the grid (4), and
- (iii) an external circulation conduit (5) for the reaction gas mixture, connecting the top (2) of the reactor to the entry chamber (9) for the reaction gas mixture and including a compressor (8) and at least one heat exchanger (6, 7),
- characterised in that the upper part of the fluidization grid is fitted with detection devices protruding through the fluidization grid and capable of detecting the polymer agglomerates hitting said devices.

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